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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

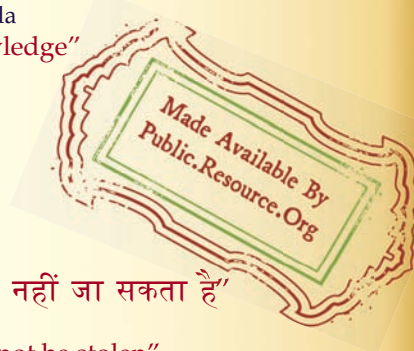
IS 12134 (1987): Classification for dredgers [TED 18:
Inland, Harbour Crafts and Fishing Vessels]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

(Reaffirmed 2003)

CLASSIFICATION OF DREDGERS

1. Scope — Specifies a classification of all types of dredgers designed for extracting or moving soil when altering the dimensions of basins or when creating new ones. In this standard, only displacement craft are considered.

2. Classification of Dredgers Basins on General Properties

2.1 Basing on Usage

- a) Dredgers for deepening,
- b) Mining dredgers*,
- c) Dredgers for reclamation*, and
- d) Dredgers for special works*.

2.2 Basing on the operational area (with account for the design, construction and classing by a classification society):

- a) *Sea-going* — operating in the areas of roads, ports, approach canals, coastal zones; and
- b) *Dredgers for inland navigation ways* — operating on the area of rivers, lakes, water basins and canals.

2.3 Basing on the type of the soil extracted:

- a) Operating on hard soils,
- b) Operating on medium soils,
- c) Operating on soft soils, and
- d) Of multi-purpose type (providing for operation in a range of several groups of soil or by changing the set of technological equipment, treatment of soils of other categories of difficulty).

2.4 Basing on the type of power plant:

- a) Steam,
- b) Diesel,
- c) Diesel-electric,
- d) Diesel-hydraulic,
- e) Electric,
- f) Gas-turbine,
- g) Nuclear,
- h) Supplied from shore power plants, and
- j) Combined.

2.5 Basing on the method of movement from one working section to another:

- a) Self-propelled,
- b) Trailing, and
- c) With restricted self-propelling ability.

2.6 Basing on the transportability:

- a) Dismountable, and
- b) Non-dismountable.

2.7 Basing on the habitability:

- a) With accommodation, and
- b) Without accommodation.

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2.8 Basing on the method of soil treatment and extraction:

- a) Suction,
- b) Scoop,
- c) Rock-crushing,
- d) Bed wash-out,
- e) Rock-drilling*,
- f) Sub-marine bulldozers*, and
- g) Reloaders and sorting dredgers or attachments*.

3. Classification of Dredgers Based on Specific Properties

3.1 Suction dredgers are additionally divided.

3.1.1 Basing on the type of dredging member:

- a) With a centrifugal pump,
- b) With a jet pump,
- c) With an air-lift (gas-lift), and
- d) Combined.

3.1.2 Basing on the location of the dredging facility:

- a) With the dredging facility located at one side,
- b) With the dredging facility located at both sides,
- c) With the dredging facility located in a notch, and
- d) With a combined location.

3.1.3 Basing on the soil transportation method:

- a) With a floating pipeline,
- b) With a suspended pipeline,
- c) With a soil-discharging nozzle,
- d) Hopper,
- e) Barge-loading, and
- f) Combined.

3.1.4 Basing on the soil loosening method:

- a) Without an agitator,
- b) With a mechanical agitator,
 - With multipurpose agitator nozzles,
 - With rock agitator nozzles.
- c) With a hydraulic agitator, and
- d) Combined.

3.1.5 Basing on the means of operative travel.

- a) Moved with propelling devices,
- b) Pile and anchor,
- c) Anchor,
- d) Pile, and
- e) Combined.

3.1.6 Basing on the methods of operative travel:

- a) Butterfly,
- b) Longitudinal,
- c) Combined, and
- d) Pit*.

3.2 Suction hopper dredgers are additionally divided.**3.2.1 Basing on the method of discharge:**

- a) With bottom discharges openings,
- b) With an opening hull,
- c) With a suspended pipeline, and
- d) With a soil extraction with mechanical or hydraulic facilities of a dredger or reloader.

3.2.2 Basing on the methods of dredging:

- a) With a trailing soil receiver,
- b) With an attacking soil receiver, and
- c) Combined.

3.3 Scoop dredgers are additionally divided into:**a) Basing on the type of dredging facility:**

- 1) Dipper,
- 2) Multi-bucket, and
- 3) Grap.

b) Basing on the means of operative travel into:

- 1) Anchor,
- 2) Pile, and
- 3) Pile and anchor.

3.3.1 Dipper dredgers are additionally divided into:**a) Basing on the direction of the bucket movement:**

- 1) With a director shovel, and
- 2) With a reverse shovel.

3.3.2 Bucket dredgers are additionally divided into:**a) Basing on the soil transportation method into:**

- 1) Barge-loading,
- 2) Conveyor,
- 3) Chute, and
- 4) Combined.

3.3.3 Grab dredgers are additionally divided:**a) Basing on the number of grabs:**

- 1) Single grab, and
- 2) Multi-grab.

b) Basing on the soil transportation method:

- 1) Non-hopper, and
- 2) Hopper.

3.3.4 Rock-crushing dredgers are additionally divided basing on the performance of the operating member into those:

- a) With a free movement of the bit, and
- b) With a forced movement of the bit.

EXPLANATORY NOTE

Dredging is a constant feature in most of the ports and waterways. A large number of types of dredgers are employed for the purpose in the country. An attempt has been made in this standard to lay down the classification of dredgers.

The dredging equipment marked with an asterisk (*) are not further dealt upon as they do not directly pertain to deepening as such.